

JUN 19 1998

Mr. Kirk G. Dehon
 Mgr., Business Development
 Advanced Remediation Mixing, Inc.
 711 Oxley St.
 Kenner, LA 70062

Dear Mr. Dehon:

The review of your PCB Disposal Demonstration Test Plan submitted March 17, 1998 to Hiroshi Dodohara resulted in the comments listed below. Advanced Remediation Mixing, Inc. (ARM) intends to demonstrate its mobile WPS-2000 unit to obtain a TSCA PCB Disposal Approval. The WPS-2000 unit uses a plasma reactor to destroy PCBs. A primary chamber vaporizes liquid PCBs and the vapors flow through the reactor where the PCBs are destroyed. Gas from the reactor passes through a series of sorbers and filters and is treated through a catalytic oxidizer, prior to discharging to the atmosphere. ARM must respond to the comments below prior to EPA granting a TSCA PCB Demonstration Approval for the WPS-2000 unit.

Most of the comments provide clarification such as Item 2, which states that whatever conditions are observed during the demonstration transposes into permit conditions for the TSCA approval. Items 5 and 6 are more specific. Item 5 addresses the monitoring of exhaust gas during commercial operation. We believe that data obtained from the current sampling location, prior to the catalytic oxidizer, will not reflect the condition of the exhaust gas. Therefore, the exhaust stream must be monitored. Item 6 addresses sampling of the exhaust gas during the demonstration. During the demonstration, air will continuously flow through the catalytic oxidizer and out the exhaust duct. However, process gas will be intermittently introduced to combine with the flow of air to be treated in the catalytic oxidizer.

COMMENTS:

1. A separate TSCA application must be submitted for PCB disposal approval. If sections of the application are duplicate of the Demonstration Test Plan sections, they may be included by reference. This submission must be in our hands prior to the demonstration.

CONCURRENCES

SYMBOL	7404	7404						
SURNAME	Dodohara	Bany						
DATE	6/12/98	6/19/98						

HDodohara:hd/OPPT-NPCD-FOB/6-12-98/7404/260-3959/Rm ET837/D31" DEMOPLAN\ARM-DEMO.WPD"
 OB Chron:Reading File/DS File/Subject File/Author File
 plasma, thermal, PCB disposal, deficiencies, demonstration, liquids

2. The Demonstration Plan indicates no transformers will be treated during the demonstration. To authorize treatment of transformers containing greater than 500 parts per million (ppm) PCBs in the TSCA approval, ARM must demonstrate PCB transformer treatment operations. Please be aware that operating conditions demonstrated during the demonstration will directly affect the permit conditions in the TSCA approval. Examples are type of material treated, feed rate of material, concentration of PCBs in the feed, and treatment operating conditions such as Evaporator temperature.
3. Page 3, Sect. 4.1. The WPS-2000 is described as normally operating in a batchwise mode. Should ARM select to operate the WPS-2000 in the batch mode during the demonstration, EPA must limit the PCB operations to batch mode. To be approved for continuous operations, the WPS-2000 must demonstrate continuous operations.
4. Page 5, 3rd para. The "optional filtration sorber" cited in the first sentence will be required equipment for TSCA operations if used during the demonstration. ARM must specify under what conditions the filtration sorber is not required and demonstrate that these conditions indeed do not require this sorber.
5. Page 6, Para. 2 & 3. The description of the continuous monitoring system is contrary to those required by EPA for thermal, oxidizing processes. For permitted operations, continuous emissions monitoring (CEM) sampling points are normally placed at sampling points located during the demonstration. The CEM sampling points in the WPS-2000 are located upstream of the gas sampling points at the process gas diverter valves, whereas the demonstration sampling location is downstream of the diverter valves and past the Catalytic Oxidizer exhaust. Although the stack sampling crew will monitor the exhaust gas with their CEM devices, the WPS-2000 is not equipped to monitor the exhaust gas continuously during commercial operations. Several options exist. (1) Install a CEM device to monitor CO, O₂ and THC at the Catalytic Oxidizer exhaust. (2) Move the CEM device from the diverter valves to the Catalytic Oxidizer exhaust. EPA will impose an air/process gas ratio to the Catalytic Oxidizer inflow. (3) Or maintain current CEM configuration, while sampling the process gas exiting the diverter valve (T₁) and the stack gas simultaneously for the same parameters during the demonstration. Both stack samples must meet the 6-9s DRE and the dioxin criteria as well as minimizing semi-volatile and volatile organic constituents. EPA will impose an air/process gas ratio to the Catalytic Oxidizer intake flow. EPA believes that only by exercising one of these options that the WPS-2000 will not impose an unreasonable risk of injury to health and the environment, with some measure of assurance.

EPA perceives little benefit to monitoring the process gas prior to releasing the gas to the environment through the Catalytic Oxidizer. As ARM stated, because no oxygen is added to the reactor loop, no NO_x should result. That rationale can produce the conclusion that no CO should result, or that the CO concentration is dependent on the amount of air in the reactor chamber at the start of the operation and not dependent on the efficiency of the plasma operation. So to install a CEM to monitor CO at that location is pointless. Additionally, the THC monitor is methane and propane based. As a result,

only light hydrocarbons would be detected. Thus, no information on the quality and the quantity of the toxic heavy hydrocarbons would be obtained. Monitoring the exhaust gas rather than the intermediate process gas should meet EPA monitoring requirements and give assurance that the WPS-2000 will impose no unreasonable risk of injury to health and the environment.

6. Pg 14, 2nd para. ARM intends to implement an exhaust gas sampling scheme which may not collect samples representative of WPS-2000 treatment operation. A steady flow of gas will be maintained in the exhaust duct by the Catalytic Oxidizer fan. The fan normally operates intermittently whenever the plasma reactor valve opens. The valve opens whenever conditions in the reactor loop are below a set of limits. To sample the exhaust gas isokenitically, a steady gas flow must be maintained by the fan. However, when the reactor valve is closed the sampling trains are not collecting process gas, but merely atmospheric air. So the sampling must either be stopped during the periods when only air flows through the exhaust duct, or the quantity of "only air" must be measured, recorded and subtracted from the total volume of gas sampled. ARM must provide EPA for review and approval, a protocol to perform either of these operations.
7. Pg. 24, Item 6.9. EPA will accept certified analysis; however, EPA normally collects split samples of the feed stream during the demonstration to verify feed concentration. If a discrepancy occurs between the certified analytical results and EPA's results, the diverting results must be resolved. No formal procedure is in place to resolve these types of differences. One option is for EPA's lab and the ARM laboratory to exchange QA samples before analysis.

Please contact Hiroshi Dodohara at (202) 260-3959 on questions regarding this matter.

Sincerely,

Tony Baney, Chief
Fibers and Organics Branch

cc: James Sales
USEPA Region VI

Lou Roberts
USEPA Region VI



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March 17, 1998

DODI DODOHARA
U.S. EPA OPERATIONS BRANCH
401 M STREET, SW.
WASHINGTON, DC. 20460

Dear Mr. Dodohara:

Enclosed is a copy of a demonstration test plan for the WANGTEC ULTRA-PYROLYSIS SYSTEM WPS-2000. We are sorry it took so long to submit this final test plan with suggested revisions. We appreciate your patients and help in approving our test plan. If you have any questions please contact Norman Murray or myself Kirk Dehon at (504) 461-0466. Thank you for your time and cooperation in this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Kirk Dehon', written in dark ink.

Kirk G. Dehon
Manager, Business Development.